L Number	Hits	Search Text	DB	Time stamp
1	6061	stormwater or runoff	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/19 21:07
2	59070	activated adj (carbon or charcoal)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/19 20:51
3	243884	"crushed concrete" or "calcium oxide" or cao or cement	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/19 20:59
4	0	(stormwater or runoff) same (activated adj (carbon or charcoal)) same ("crushed concrete" or "calcium oxide" or cao or cement)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/19 20:52
5	103544	210/$.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/19 20:52
6	39	(stormwater or runoff) and (activated adj (carbon or charcoal)) and ("crushed concrete" or "calcium oxide" or cao or cement)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/19 20:52
7	10	210/$.ccls. and ((stormwater or runoff) and (activated adj (carbon or charcoal)) and ("crushed concrete" or "calcium oxide" or cao or cement))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/19 20:56
8	40	(stormwater or runoff) same ("crushed concrete" or "calcium oxide" or cao or cement)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/19 20:56
9	7	((stormwater or runoff) same ("crushed concrete" or "calcium oxide" or cao or cement)) and 210/$.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/19 20:56
10	68027	lime	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/19 20:59
11	38	(stormwater or runoff) same lime	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/19 20:59
12	8	((stormwater or runoff) same lime) and 210/$.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/19 20:59
13	7082	stormwater or runoff or "storm water" or "storm drain"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/19 21:08

14	787	(stormwater or runoff or "storm water" or "storm drain") and 210/$.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/19 21:08
15	1595	210/689-694.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/19 21:09
16	35	((stormwater or runoff or "storm water" or "storm drain") and 210/$.ccls.) and 210/689-694.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/19 21:09

US-PAT-NO: 6042731

DOCUMENT-IDENTIFIER: US 6042731 A

TITLE: Method of removing arsenic species from an aqueous medium using modified zeolite minerals

---------- KWIC ---------

Brief Summary Text - BSTX (7):

Naturally occurring ubiquitous arsenic is present in the environment and makes of 0.00005% of the earth's crust. Hence it is found in trace quantities in many ground and surface waters. However, arsenic has many industrial uses such as hardening of copper and lead alloys, pigmentation in paints and fireworks, and the manufacture of glass, cloth, and electrical semiconductors. Arsenic is also used extensively in the production of agricultural pesticides, which includes herbicides, insecticides, desiccants, wood preservatives and feed additives. Runoff from these uses and the leaching of arsenic from waste generated from these uses have resulted in increased levels of various forms of soluble arsenic in water. Because of recent studies further revealing its toxicity, the United States Environmental Protection Agency (EPA) has classified arsenic as a human carcinogen (Group A) and is considering lowering its maximum contaminant level from its present requirement 50 parts per billion (ppb) to 5 ppb or less.

Brief Summary Text - BSTX (12):

Another method for removing arsenic species from an aqueous medium is through the use of activated carbon. Activated carbon is available in powdered (PAC) and granular (GAC) forms. The powdered form is generally utilized in a batch process, most often in conjunction with another unit process. Studies have shown that the addition of a powdered activated carbon to a lime softening process can enhance arsenic removal (Dutta, A. and M. Chaudhuri. "Removal of
arsenic from groundwater by lime softening with powdered coal additive." Aqua, vol. 40, no. 1 (1991) pp. 25-29). Lime softening and PAC alone were found to remove 90% and 15%, respectively of the aqueous arsenic species present.

Brief Summary Text - BSTX (13):

However, the use of activated carbon to remove arsenic species from an aqueous medium has inherent limitations in that activated carbon has a limited natural capacity for adsorbing arsenic species. Further, activated carbon has a high cost making it less attractive as a chosen method for removing arsenic species from an aqueous medium.

Brief Summary Text - BSTX (14):

Yet another method for removing arsenic species from an aqueous medium is through the use of fly ash. Fly ash is a waste product produced in large quantities at coal power stations. It is composed primarily of calcium oxide, CaO, but also may contain magnesium, aluminum and iron oxides.

Current US Original Classification - CCOR (1):

210/679

Current US Cross Reference Classification - CCXR (1):

210/683

Current US Cross Reference Classification - CCXR (2):

210/911

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US005364535	6	1 - 6	1
US005264134	8	1 - 8	1
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